

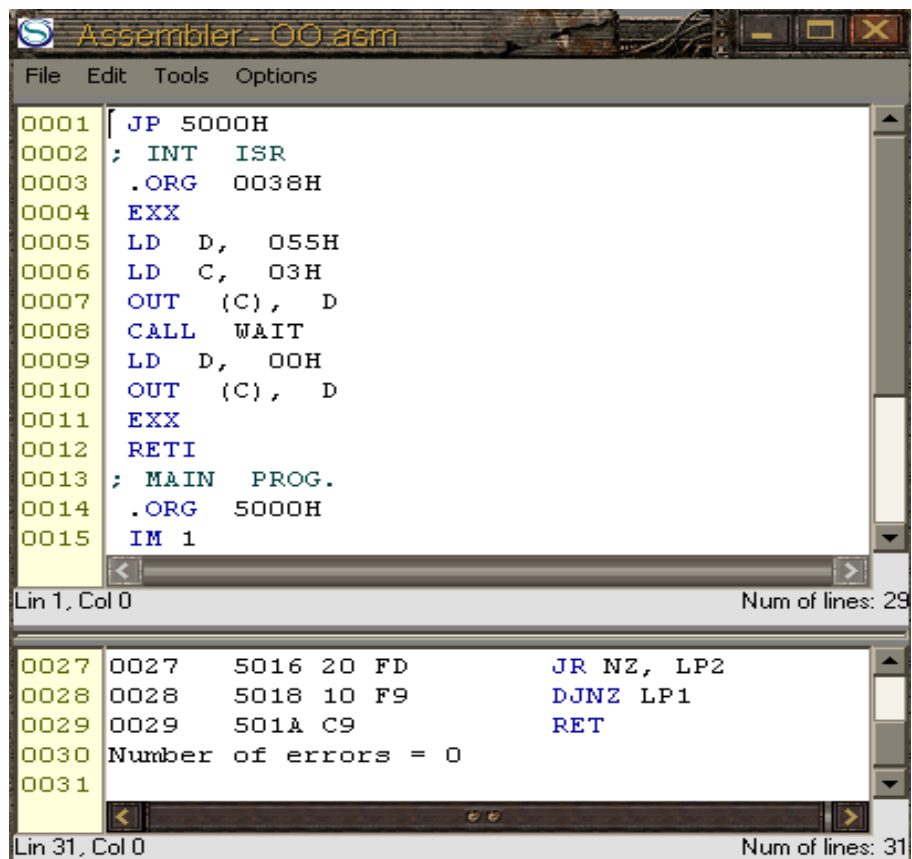
## Fourth Communications

### lab1\_organization

#### Sec (1)

- 1- Asmaa Abdelmonem Eyssa**
- 2- Asmaa Mohamed Kamal**
- 3- Asmaa Shaban Mahmoud**
- 4- Basma Gamal**

1



2



**11-Comment of the out on port 02: the** out is the rotate right of content of the register D it represented by led.

If the light is on (represent logic (1)), if the light is off (represent logic (0)).

3



**12-if click on button (INT)**

\*the out on port 02 is pause (the led not rotate at min time

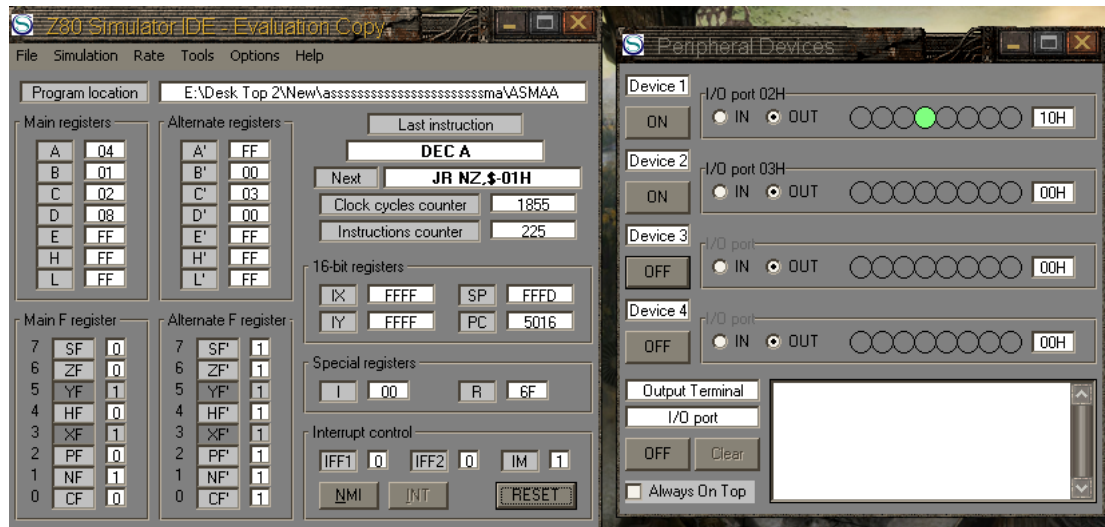
the out is 80H or 40H or 20H or 10H or 08H or 04H or 02H or 01H

\*the out on port 03 is 55H and after min time the out is 00H

**13- The content of pc register:** before click on (INT) the content is the addresses of Instructions of the main program .

after click on (INT) the content of pc is the address of the first instruction of interrupt program and pc content is increment by 1 (pc=pc+1) note that (the address of the next instruction in the main program is saved in the stack) after finished from executing the interrupt program the content of pc is the next address of the next instruction of the main program.

4

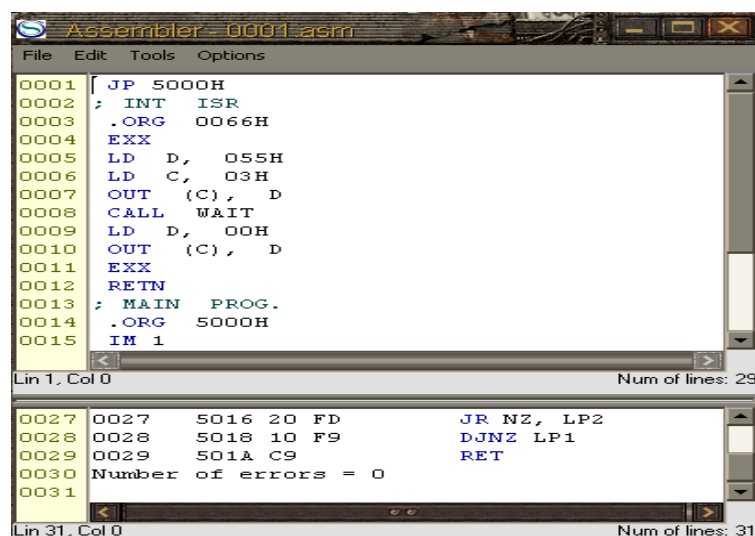


**15-to become (INT) enable:** we should excute the main programe at first  
and the pc =5000H

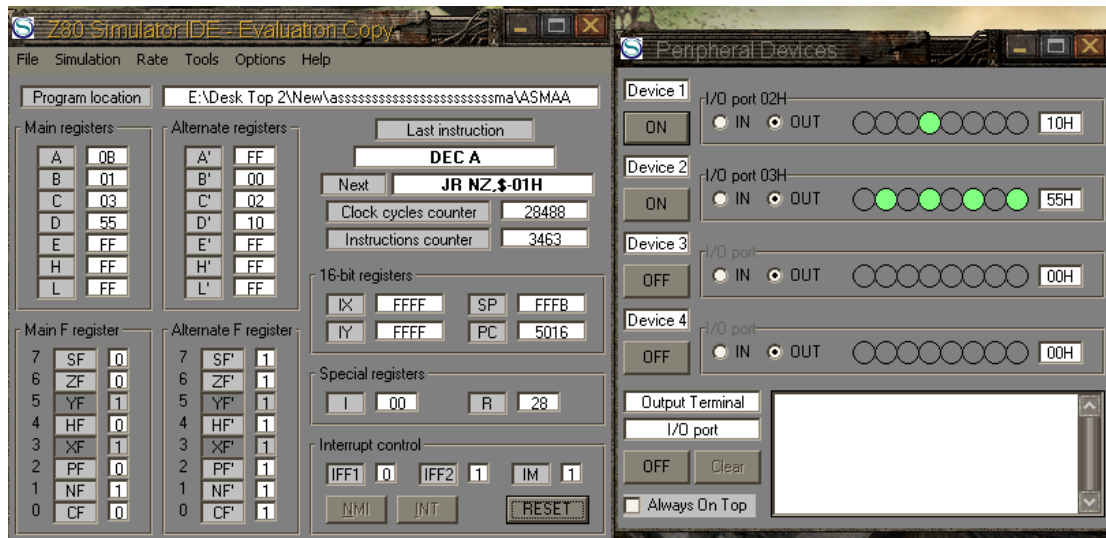
by click on the reset button the main programe excute and the (INT)is  
enable

## PART 2. NON-MASKABLE INTERRUPTS:

I



II



III



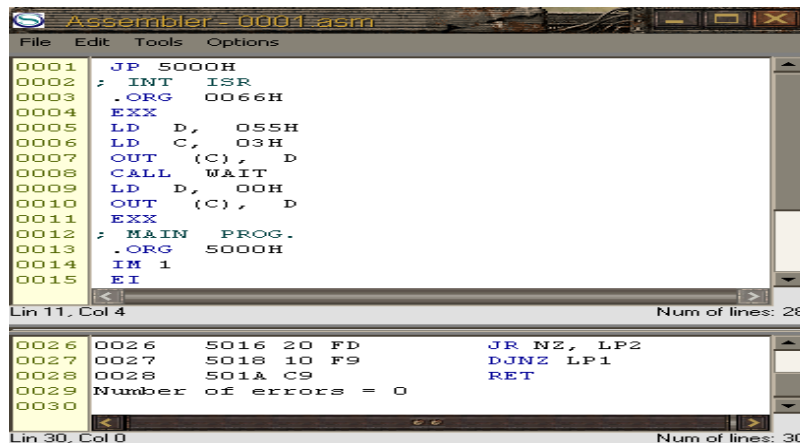
IIII



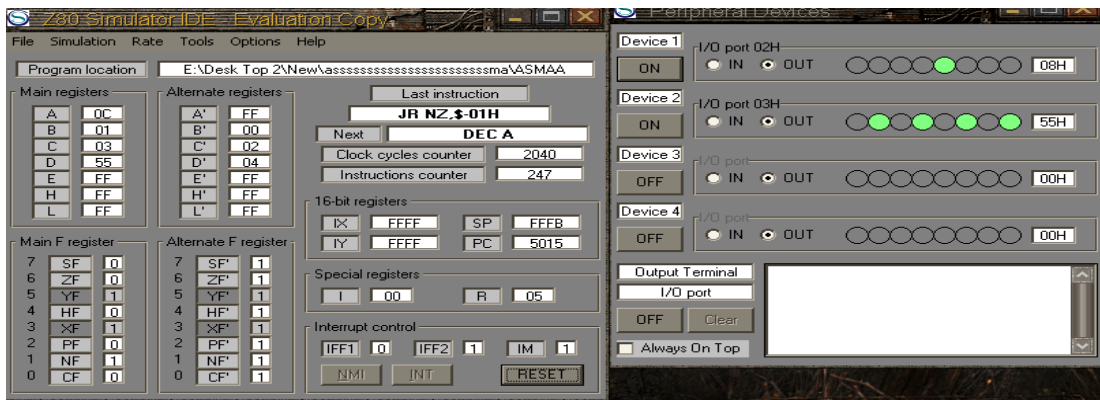
1- The out on port 03 is 55H at min time and the (NMI) Is disable

(INT) was disabled when (NMI) occurred this not allow the any interrupt to execute so the (INT) Is disable. after finished from non maskable interrupt RETN instruction allow interrupt to be enable

## When Remove the RETN instruction



```
0001 JP 5000H
0002 ; INT ISR
0003 .ORG 0066H
0004 EXX
0005 LD D, 055H
0006 LD C, 03H
0007 OUT (C), D
0008 CALL WAIT
0009 LD D, 00H
0010 OUT (C), D
0011 EXX
0012 ; MAIN PROG.
0013 .ORG 5000H
0014 IM 1
0015 EI
0026 0026 5016 20 FD JR NZ, LP2
0027 0027 5018 10 F9 DJNZ LP1
0028 0028 501A C9 RET
0029 Number of errors = 0
0030
```



**2-if remove RETN from the programe and click on (NMI)**  
**the (INT)and(NMI)are disable and then the program stop .**  
**RETN it allow the interrupt to be excuted (enable) .**